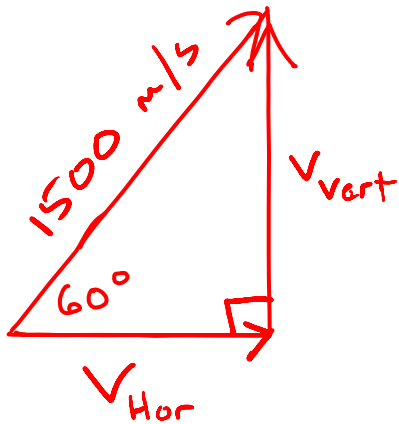
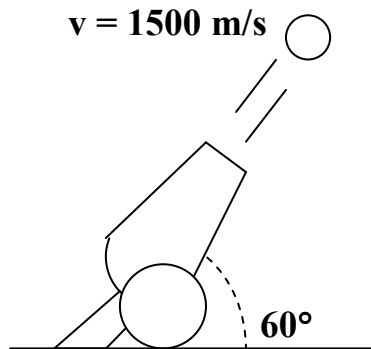


**Example 7.**

**A cannon is shot at a muzzle velocity of 1500m/s at an angle of 60° to the horizontal. What are the vertical and horizontal components of the velocity?**



vertical component:  $\frac{V_{\text{vert}}}{1500} = \sin 60^\circ$

$$V_{\text{vert}} = 1500 \sin 60^\circ$$

$$V_{\text{vert}} = 1.3 \times 10^3 \text{ m/s.}$$

horizontal component:  $\frac{V_{\text{Hor}}}{1500} = \cos 60^\circ$

$$V_{\text{Hor}} = 1500 \cos 60^\circ \quad V_{\text{Hor}} = 7.5 \times 10^2 \text{ m/s}$$